



Technology Frontliner Stocks

Vol. I, No. 2

December 19, 1969

A twice-monthly publication of Technology Research Bureau

Annual Subscription — \$55

IN THIS SECOND ISSUE OF TFS WE EMPHASIZE THE MEDICAL SECTOR WITH AN OVERVIEW OF THE FORTHCOMING INDUSTRIALIZATION OF THE MEDICAL FIELD. WHILE THE MEDICAL SERVICES FIELD IS GROWING AT AN ESTIMATED 8.7% PER YEAR, THE RELATIVELY NEW SUB-SEGMENT, CORPORATE MEDICAL SERVICES, CAN BE EXPECTED TO DOUBLE IN SCOPE AND SIZE EACH YEAR FOR AT LEAST THE NEXT DECADE. AND IN CORPORATE MEDICAL SERVICES IS WHERE THE INVESTMENT OPPORTUNITIES LIE. THE EXAMPLE COMPANY IN THIS ISSUE IS S.F. DURST & COMPANY, A RAPIDLY GROWING COMPANY WORKING THE ENTIRE SPECTRUM OF DRUGS, DEVICES, AND THE INDUSTRIAL AND BIOMEDICAL SERVICES MARKET.

Supply versus demand in the medical-surgical field is more vastly out of whack than most people realize, including members of the profession itself, according to Mr. Tullio Ronzoni, Vice President and General Manager of the Medical Division of the Birtcher Corporation. His deeply ingrained beliefs provide perspective in seeing the forest as well as some of the larger trees.

The condition has been brought about by many factors, chief among them are much larger total population; more people in the very young and the elderly age groups, new medicines, devices and techniques; and increased attention to health and preventive measures.

It is obvious the supply of doctors cannot be increased at a rate necessary to cure the overall problem. Nor can the rapid increase in paramedical personnel be counted on, although it must be pursued. What must be done, in a word, is to industrialize medical services. This will require increasing paramedical personnel, the maximum use of computer techniques and programs, the establishment of corporations to manage the services, and a tremendously heavy emphasis on preventive measures. The latter will probably extend to periodic examinations for the entire population.

Industrializing the medical field inevitably means that it will become patient-oriented (or

customer-oriented if you will) rather than oriented toward the doctor and the image of omniscience the AMA has carefully nurtured over the years. The customer of the future will not go to an individual proprietor (the general practitioner) but rather to a corporation, which will be staffed by specialists. The corporation will assign the proper specialist to each specific case on the basis of standardized patient interviews followed, if required, by appropriate tests and measurements given by paramedical personnel. However, prior to the doctor's actually facing the patient, the information gathered has been computerized, and certain answers will already be available to the M.D. Thus, he will assume an almost exclusively decision-making role.

Britain, which has been on socialized medicine for many years has found that statistically about 74% of the people who go to the doctor have nothing basically wrong with them, that 19 to 20% are chronically ill, and therefore their medical history is well-known; this leaves only 6% to 7% of the population on which medical information is lacking.

The American Medical Association Role

Question: is the AMA buying this deal? Mr. Ronzoni shrugs his shoulders and asks "Who cares?" Two large forces now exist which will inexorably steamroller the opposition. The first is

the third party funder of medical services, such as the Federal Government, state governments, and insurance companies. The second force is the "legal body", consisting of the courts, the state and federal legislatures, and the legal profession. For example, the U.S. Supreme Court has already told the nation, the AMA, and the Food and Drug Administration that a device is the same as a drug. This means the FDA and the manufacturers of medical and surgical hardware as well as drug companies will be looking to the FDA for basic standards and specifications under which to design and manufacture their respective products. The medical profession will be in the same position it is today with respect to devices as it already is with respect to drugs. The preventive practice may ultimately move into a situation wherein the verbal interview is done over the telephone, as will several physiological measurements, such as temperature, pulse rate, blood pressure, and possibly even electrocardiogram. This will be made possible by the development of miniature instrumentation systems, which everyone will have, like a transistorized radio. These devices will telemeter the measurements to the computer for storage, analysis, and retrieval. It could easily resemble the pay-TV concept.

Over the years a group of data storage and retrieval centers will no doubt emerge. There may be special ones for cancer, heart diseases, communicable diseases, brain disorders, etc. Such a system would provide for all practicing personnel a huge statistical base from which new knowledge may be derived. For example, a new drug, prior to FDA approval, would be checked out by the computer. Let's say the drug has an XYZ chemical radical in it. The computer would be

consulted on statistics on other drugs, containing the same radical as to the possible side effects.

Precedent For Change

Are there any historical models to help support this outlook, in a broad brush way? Mr. Ronzoni says yes. One example is the metamorphosis that took place in the agricultural business when it was transformed from a large number of individual farmers to an industrialized and mechanized business. A second example, in a somewhat different way, was the transformation in the engineering profession, most easily seen in the years immediately following World War II. To illustrate, electrical engineers were divided into specialties, the specialties into sub-specialties, etc. Engineering had become so complex that this was the only way to solve some of the herculean projects that confronted us. Of course, a generalist was required to determine which specialists were needed, and to coordinate and lead them. A team, a leader, organization meant industrialization.

Getting back to the M.D.'s, the "legal body" (state legislatures in this case) is already stirring the pot, because of the increasing number of malpractice suits and their concern whether many doctors are keeping abreast of new medicines, devices, and techniques in their specialties. The State of Oregon has already passed a law requiring periodic requalifying examinations to retain their licenses.

A good many of the things that Mr. Ronzoni has projected are already beginning to happen. In the next few years the changes will assume the proportions of an avalanche. Food for thought: what about the legal profession?

BILL SWEETMAN

CORPORATE MEDICAL SERVICES

S.F. Durst & Company, Inc., St. Louis, Missouri.

S.F. Durst is a small medical science company with sales in fiscal 1968 of \$785,000 but with projections of a volume of \$100 million in 1972. The projections are those of Chairman of the Board Jack Paller. Vice President John C. Busby, and Stuart Friedman, president of a subsidiary. Physionics, Inc. All were

interviewed by Technology Research Bureau staffers. Here is their estimate of sales and earnings:

	1969	1970	1972
Revenue	\$1,550,000	\$8,100,000	\$100,000,000
Net	break-even	735,000	10,000,000
EPS	break-even	.70*	2.50

*Based on an estimated 1,050,000 shares outstanding, about 250,000 of the shares in public float.

The singular factors surrounding S. F. Durst are, (1) an aggressive management team effectively using a PERT/COST technique, (2) operating in an exploding market sector, and (3) a pioneer (if not the very first) fully exploiting the whole spectrum of the medical market: drugs, devices, industrial, and bio-medical services, and also their interrelationships. As an indication of the effectiveness of this group and their methods, five acquisitions have been made since May, three others will be closed momentarily, putting the acquisition program on schedule with a cumulative annual billing rate of over \$5.5 million. The company is also engaged in active negotiations for acquisition of 25 other companies.

The earnings per share of \$.70 may well be conservative, because the effect of planned acquisitions during 1970 has not been taken into account. At any rate, if the company meets its goal in 1970, the P/E ratio on anticipated 1970 results is under 20X. Should they make the 1972 goal, a significant profit can be realized. The management appears capable of solving the digestion problem.

History

S. F. Durst & Co., up until 1968, was a 38-year old small family-held manufacturer and distributor of ethical pharmaceuticals. By 1968 its annual sales volume reached \$785,000. Operations were profitable for all but 3 years. In November 1968, a group of five individuals acquired, for cash, the controlling stock; Messrs. James H. Boyce, John C. Busby, John W. Cross, Herbert C. Hathorn, and Jack Paller. At year end the company became publicly owned by acquiring, for cash, the controlling interest in Utah Starter Mining Company. The companies were merged, the survivor being S. F. Durst & Company, Inc.

In April 1969, Mr. Morrell A. Nunn was elected President, replacing Mr. R.L. Durst, who remains a consultant to the company. One month later, the company initiated an acquisition program which resulted in establishment of the following organization.

In November 1969, Mr. Jack Paller was elected Board Chairman.

OPERATING UNITS

S. F. Durst ... billed \$785,000 in 1968 in ethical drugs. It is now integrating the Tilden Yates line of

150 products with its own. The T-Y sales organization now working with the total product line should produce about \$1.3 million in sales for 1970.

Drugmaster ... developed \$1.6 million in sales for 1968. Largely due to the accounting treatment given to this acquisition, and to the pruning of marginally profitable products, sales for 1969 will approximate only \$600,000. However, projections indicate revenues from this unit in 1970 should jump to \$1.5 million. Products are compressed and coated tablets, ointments, liquids, hard capsules, and sustained release formulations.

Bio-Neering ... has recently licensed a large animal health distributor to merchandise its patented Meter-Matic Syringe Gun and Zip load cartridge. The system basically saves cost by saving labor, elapsed time, and material costs while also providing accuracy and reliability. It dispenses without reloading, 50 doses of prepackaged, throwaway cartridges of medicines. This unit has five drugs in its present line, and expects to add twelve more during 1970.

Knox Laboratories ... was founded in 1949 and has performed research and development on various products for medical and hospital use. Since 1966, Knox has been developing a coordinated hypodermic syringe system, including disposable components and also a unique "centerpoint" needle. This configuration permits a much sharper point than conventional ones; thus there is much less pain and trauma to the tissues. Durst plans to continue certain development work of this type, but will redirect the overall effort toward a large-scale manufacturer of medical and hospital products.

X-Scope ... produces a revolutionary Cardiac X-ray Synchronizer on which two patents are pending. The standard X-ray film is not time-related to the heart pumping cycle. Thus, it is difficult to compare X-rays taken at different times. Hence, it is difficult to assess therapeutic progress, unless cardiac synchronization was used in taking the film. With the Cardiosync, the physician can film at any two points in the EKG trace, one single film containing a double exposure revealing heart and blood vessels in diastole and systole; precise heart size can be measured. This instrument is exceptionally well-adapted to mass health screenings. It will be sold through Physiodata, Inc. at a price over \$5,000.

Physiodata, Inc. . . . spearheads the company's efforts in the bio-medical services markets.

The services which this organization sells are:

(1) Computerized multi-phasic health screening centers. These groups conduct mass periodic health checks, on the preventive thesis, through a series of standardized examinations and tests carried out by paramedical personnel. Over a period of time, a huge data base will be formed. Physicians can make from it, statistically sound decisions. The Kaiser-Permanente screening centers in Northern California have already caught many unsuspected conditions, and promptly treated them.

(2) Automated clinical laboratory. The attending professional will receive the results of the screening, and then may decide he needs certain clinical measurements such as blood chemistry and hematology, urine analysis or culture, and cell structure analysis.

(3) Testing services for foods, drugs, and cosmetics.

(4) Diagnostic services, such as X-ray analysis.

(5) Training of paramedical personnel.

(6) The new Datamedic system. This involves the operation of computers programmed to process patient data rapidly and accurately, data being fed directly to the computer by medical and paramedical personnel. Proper monitoring will permit the data to be provided rapidly, accurately, and reliably for the physician to make his diagnostic decisions.

The foregoing services will be sold to doctors, dentists, hospitals, clinics, government agencies, unions, insurance companies, and industrial groups. Each screening center will be associated with a clinical lab which will not only service the center, but also independent physicians in the area.

MANAGEMENT

Morrell A. Nunn President and Director. Mr. Nunn's experience includes Director of the Medical

Chemicals Division, Mallinckrodt Chemical Works, Inc.; Corporate Marketing Manager, R. P. Scherer Company; Vice President, Strong, Cobb, Arner, Inc.; Vice President Mid-West Region, Drug, Chemical and Allied Trades Association.

Jack Paller, Chairman of the Board. President, Jack Paller & Co., Incorporated and Jack Paller & Company of Philadelphia; Inc. Director, Monarch Enterprises, Inc.; Montana Western Oil & Gas Co., Inc.; Physiosonics, Inc.; Life Senator, Junior Chamber of Commerce International.

John C. Busby, Vice President and Director. Retired Captain, United States Navy. Former President, Southern Machinery Corporation. Listed WHO's WHO IN THE EAST and WHO's WHO IN COMMERCE AND INDUSTRY.

Stuart Friedman, President, Physiodata, Inc. Mr. Friedman holds B.S., M.S., and M.B.A. degrees from the University of Southern California. His experience includes Regional Sales Manager, Hollywood Plastics, Inc. (a subsidiary of Shell Oil Company); President, Physiosonics, Inc.; First Vice Chairman of MENSA. Listed WHO's WHO IN THE EAST and WHO's WHO IN COMMERCE AND INDUSTRY.

Edmund J. Lange, Jr., Corporate Director of Marketing. Mr. Lange, Jr. has twenty years of marketing and advertising experience in the proprietary and ethical drug field. His experience includes Marketing Executive, Bristol-Myers and Bristol Laboratories; Account Supervisor, McCann-Erickson Advertising Agency; New Products Director, Johnson & Johnson.

Vincent R. Michael, Treasurer. Mr. Michael holds B.S. and M.B.A. degrees in Business Administration from Washington University. His experience includes Senior Accountant, Ernst and Ernst; Treasurer, Petroleum King, Inc.; partner, Kemper, Fisher, Faust & Co.; Assistant Controller, Pet, Inc. Member American Institute of Certified Public Accountants.

BIO-CAL INSTRUMENT COMPANY

Bio-Cal Instrument Company, Richmond, California, is a wholly-owned subsidiary of Bio-Rad Laboratories, Inc. Bio-Cal is now in registration for an initial public offering of 439,448 shares of common stock at \$4. Shares will be offered first to holders of Bio-Rad shares. This of course will definitely tend to limit the shares available to the general public.

Bio-Cal operates on the frontline of medical technology, engaged primarily in the design, manufacture, and sale of instrumentation for biochemistry, biophysics, and biomedical sciences. The company also provides sales and service representation for the scientific products of certain other manufacturers.

With anticipated earnings in the range of \$.30 for the year ending December, 1970, the stock appears to be a worthwhile speculation at prices under \$10.

Technical competence of the company has been demonstrated. It has produced the first Amino Acid Analyzer and Protein Sequence Analyzer which detect and report the identity, quantity, and arrangement of amino acids in protein and other natural and synthetic products. One of the functions of the machines, for example, is to take blood, urine, or skin samples, and to separate and quantitatively measure amino acids through an ion-exchange resin; the data is displayed graphically. The applications for this equipment are in cancer research and other diseases. The idea is to analyze diseased samples and compare to a norm. The comparison is then used as a basis for the development of an anti-body. The price of the machines ranges from \$13,000 to \$40,000, depending on the number of optional components desired. The machines are completely automatic, capable of handling 19 different samples. Labor savings of up to two man-days result.

NEARLY TEN YEARS AGO FORTUNE MAGAZINE INVESTIGATED THROUGH INTERVIEWS OF CORPORATE OFFICERS WHY THEIR COMPANIES WERE PARTICIPATING IN THE SPACE PROGRAM WHEN COMMERCIAL ENDEAVORS COULD MAKE MORE SHORT-TERM CONTRIBUTION TO PROFITS. THE ANSWERS WERE RELATIVELY UNANIMOUS. THEY WERE LOOKING FOR TECHNOLOGICAL "FALL-OUT" IN THE FOLLOWING ORDER OF IMPORTANCE: (1) NEW MATERIALS, (2) NEW PROCESSES, AND (3) NEW PRODUCTS. THE FALL-OUT HAS NOT BEEN DISAPPOINTING AND THE EXOTIC MATERIALS SECTOR IS BEGINNING TO ASSUME SIGNIFICANT PROPORTIONS. THIS SECTOR WILL INCLUDE NOT ONLY COMPANIES IN THE METALS INDUSTRY BUT ALSO IN POLYMERICS, COMPOSITES, LAMINATES, ETC.

REM METALS, INC., Albany, Oregon (OTC)

Rem has as its main source of income the precision casting of reactive metals, such as titanium, columbium, molybdenum, etc. and their alloys. Titanium parts for missiles and aircraft predominate by far at present. The company has a breakthrough manufacturing process involving columbium — hafnium.

Basically Rem's process consists of melting a consumable electrode (ingot) in a water-cooled copper crucible in high vacuum, 1 to 5 microns. The heat energy for melting is derived from the electric arc struck across the electrode and the crucible. The molten metal is then cast into the mold desired.

The attraction of columbium is its high temperature strength; it melts at nearly 1,000° F. higher than steel, and hence can be used in gas turbine engines at higher temperatures which, in turn result in a

significant increase in engine performance. The rub is that columbium oxidizes rapidly in the temperature range of 2000° to 2400° F. The addition of hafnium (30%) provides an oxidation-resistant coating to the metal. Rem expects to secure attractive contracts from Pratt & Whitney Division of United Aircraft, and the Lycoming Division of Avco.

Rem went public in December of 1967, issuing a 400,000 share public float. Total outstanding shares are about 665,000. The offering price was \$5. The market price has varied in the recent past from 8-1/2 to 10-1/2. The company is now breaking even, and the process development and the facility expenses are behind them. These totalled over \$1.5 million. Sales for the year ending June 30, 1969 were about \$1.25 million. Earnings per-share were \$.21. Sales for this fiscal year are expected to increase to \$1.75 million. The mark-up is good in this business, the net before taxes running between 45% and 50%.

ONE OF THE FASTEST GROWING SUB-SEGMENTS OF THE ADVANCED ENGINEERING SECTOR IS THE MICROWAVE TECHNOLOGY. THE MICROWAVE MARKET NOW IS ESTIMATED AT \$1 BILLION, AND THERE ARE INDUSTRY ESTIMATES OF \$4 BILLION IN SALES IN THE MICROWAVE FIELD BY 1972. AMONG THE BIG COMPANIES PROVIDING MICROWAVE SYSTEMS ARE RCA, RAYTHEON, HUGHES AND LOCKHEED. A NUMBER OF SMALLER COMPANIES SUPPLY COMPONENTS TO THESE MANUFACTURERS.

WAVECOM INDUSTRIES, CHATSWORTH, Calif.

Wavecom is a small manufacturer of microwave components. It appears that the company can go places in a huge market. Technology Research Bureau believes Wavecom to be a good buy at the market for the short to mid-term. But for long term health and stability, the company must significantly increase its commercial sales over the next few years.

Here is Wavecom's performance from its inception in September, 1967:

FY 6/30	1968	1969	1970(Est.)
Gross sales	\$178,634	\$710,453	\$1,165,000
Net profit	2,259	101,180	363,000
Earnings/share*	.00	.18	.24

*650,000 shares outstanding

The interim 5 year goal in annual sales is \$9 million. Current price has been stable in the \$5 to \$6 range.

Wavecom's products are filters, couplers, and gain equalizers, used in communications, radar, navigation missile and satellite telemetry, and electronic countermeasures. The officers view with infectious optimism the addition of a line of solid state active filters which are expected to contribute about \$200,000 in sales for FY 1970. They will enter the market in the third fiscal quarter.

Key personnel in management, marketing, engineering, manufacturing, quality control, and accounting have worked together for an average of five years in this and prior employment.

Financial

The 100,000 shares in public float are held by over 600 people. The largest single shareholder is President William H. Harrison, who holds 12.9%. The largest single outsider holds 22,000 shares. The recent average monthly share movement has been 5,000. The largest single transaction in one day was 1,400 shares; it had no noticeable effect on the stock price.

The company's Dun and Bradstreet rating is AA-1. It has a line of credit with the Bank of America of \$100,000 at ½% over prime rate; as yet it has not been used.

Companies making a market in Wavecom stock are M.H. Meyerson, T.H. Lehman, M.S. Wien, Greenman & Co., Dole, Bush-Slocum, and Lowell & Co.

The comparison of Wavecom's financial ratios to those of the electronic industry as a whole are shown.

Ratio	Industry	Wavecom
Current	2.5	3.8
Quick	1.0	3.4
Inventory/Working Capital	87 %	12 %
Debt to Equity	33 %	12 %
Fixed Assets/Net Work	65 %	13 %
Cash Velocity	10 X	14 X
Inventory Turnover	9 X	8 days
Collection Period	36 days	51 days
Operating Profit	10 %	28 %
New Profit	5 %	14 %
Return on Capital	15 %	16 %

G&A expenses are expected to remain constant at least up to an annual billing rate in the range of \$1.5 to \$1.75 million.

Description Of Business

The company is in the business of developing, manufacturing, and selling microwave components for use in communications, missile and satellite telemetry, electronic countermeasures, radar, and navigation. Components now on the market are telemetry multicouplers, filter components, directional couplers, and gain equalizers. Over 90% of sales is concentrated in the first two lines. The latter two have not been fully exploited and should serve as a base for increased sales.

About 40% of sales comes from custom contracts wherein products are designed to meet specific requirements. In these cases, however the designs utilize concepts of the company's catalog items. At the present time, nearly 90% of sales goes to

government end-use. This condition will probably obtain for the next few years; the company expects to formulate and implement a program to increase the commercial content in the near future. All contracts are of the fixed price type in which the company retains a proprietary position.

The company is not plagued with a narrow customer base, as they number about 70. Selling emphasis is on performance and delivery, rather than on price and price alone. The microwave market is estimated at around \$1 billion now, and industry estimates that it will increase to \$4 billion in 1972. Wavecom is thus in a rapidly expanding market and can exploit its intrinsic technical capabilities to expand its product lines and sales. Accordingly, annual sales five years hence are planned at \$9 million.

Wavecome officers are not particularly concerned with the present competition. They claim their products are superior technically and performance-wise. Furthermore, typical delivery of one large competitor is sixteen weeks, while Wavecom's is only 2 to 4 weeks.

Custom contracts are handled directly primarily by employed applications engineers. Catalog items are sold through non-exclusive manufacturers representatives now established in 42 states and 20 foreign countries.

Backlog is \$400,000. An increase to \$700,000 is expected by the end of FY 1970.

History

The founders of Wavecom were Messrs. William H. Harrison, and Roger A. Poverny, both formerly with Rantec Division of Emerson Electric. The doors were opened in September 1967 with a total personnel complement of 10, all from Rantec. Financing had been accomplished by direct approach to executives in commerce and industry; in this way \$200,000 was raised from 25 investors. The key executives and employees retained 60% of the outstanding voting stock. After 6 months of operation, Wavecom Industries was formed, making Wavecom, Inc. an wholly-owned subsidiary thereof. In the process, all stock, including preferred was converted to common in Industries in such a way that the officers and

employees continued to retain 60% of the voting stock.

The decision to "go public" was made during the second year on account of rapid progress. Through Herbert Young & Co., 100,000 shares were fully subscribed at \$4 per share in July 1969. Except for a short term jump to nearly \$7, the market price has been steady in the \$5 to \$6 range.

Management

Mr. Harrison, the company's President, Treasurer, and Director since its inception, was previously employed for 11 years at Rantec, a division of Emerson Electric, located at Calabasas, California. He served as Manager of the RF Devices Department. Prior to Rantec, he was engaged in microwave component development work at Stanford Research Institute and Microwave Engineering Co. Mr. Poverny has been Vice President, Secretary, and Director from inception. He, likewise had come from a ten year employment at Rantec, where he held several management positions. The last before starting Wavecom was Western Regional Marketing Manager.

Mr. Donald C. Gross has been Vice President and General Manager for the past nine months. He also came from Rantec, where he had worked up through various management positions to Vice President and General Manager. Prior experience included eight years with the Elgin National Watch Company. Mr. Gross is production-oriented.

Mr. Richard Reed has been Chief Engineer since December of 1967. He was employed at Rantec as a staff engineer for nearly four years, and one year in managing the RF Devices Department. Prior experience included 4 years in microwave components at Raytheon and Hughes. Dr. Robert S. Elliot, Director, has been associated with the company since its inception. He has been a Professor of Engineering since 1958, and since 1966, Assistant Dean of Graduate Engineering at the University of California at Los Angeles. Dr. Elliot is Fellow in the Institute of Electrical and Electronic Engineers. Mr. Alden G. Pearce, Director, is a partner in the Law firm of Loeb and Loeb, counsel for the company, and has been practicing law since 1950.

The management gives glowing praise to their accounting firm, Wolfson, Weiner, Ratoff, and Lapin, for its extremely effective overall financial guidance.

The company also retains the services of Dr. Seymour B. Cohn as a part-time technical consultant. Dr. Cohn is a Fellow in the IEEE, and is widely recognized as one of the world's leading authorities in the theory and application of microwave techniques. He holds about thirty patents and has published more than fifty technical papers in scientific journals.

In October 1969, the company hired on a full-time basis. Drs. David K. Adams and Raymond Y.C. Ho, recently employed at Stanford Research Institute. These gentlemen will head a laboratory in Palo Alto devoted to development of an original line of active microwave filters utilizing solid state circuits.

The total number of employees is 43, of which direct labor personnel range from 25 to 30. The Board administers an employee incentive bonus plan funded from a reserve equal to 5% of the net income before taxes.

Attention to overhead costs is obvious. For example, Messrs. Poverny and Gross occupy the same office

which is not very large in the first place. The atmosphere is laced with vibrant and confident expectancy because (1) the company has done a good job in its first two years, and (2) the work done to date by Drs. Adams and Ho is extremely promising as the base for a new product line having a very significant potential.

Facilities

Wavecom occupies a modern 6,000 square foot plant in Chatsworth, California, adequate to contain their FY 1970 billing target of \$1.2 million. Planning for additional space is now underway. Development work and short production runs are done in this plant. As a rule, on longer runs the piece parts are farmed out and final assembly and checkout is done in-plant.

The company also has a small 1,000 square foot development laboratory in Palo Alto where Drs. Adams and Ho work on the new solid state active filter line. They are close to Stanford where a continuing technical cross-pollination can flourish.

DURING THE PERIOD ROUGHLY BETWEEN 1950 AND 1960, THE DREAD CPFF SYNDROME ROSE TO HUGE PROPORTIONS IN THE DEFENSE INDUSTRY. COST-PLUS-FIXED-FEE CONTRACTS WERE NOT NEW IN THE LATE FORTIES, BUT THEY WERE NOT ABUSED BY EITHER INDUSTRY OR THE GOVERNMENT TO THE EXTENT WHICH DEVELOPED FROM THAT TIME UNTIL ROBERT MACNAMARA PUT HIS HEAVY HAND TO THE PROBLEM.

UNLESS A CONTRACT WERE SO LARGE AS TO HAVE POLITICAL OR ECONOMIC IMPACT AT THE NATIONAL LEVEL, AWARDS WERE MADE TO "THE LOWEST QUALIFIED BIDDER". MOST COMPANIES, BY HOOK OR BY CROOK, COULD PROVE THEMSELVES QUALIFIED. RESULT: IN ORDER TO GET CONTRACTS, THE NAME OF THE GAME WAS TO BID SOMEWHERE BETWEEN 50% TO 80% OF YOUR REALISTIC ESTIMATE. MANY CONTRACTORS HAD INFORMAL PIPELINES INTO THE GOVERNMENT AGENCIES WHICH TOLD THEM AHEAD OF TIME WHAT THE RIGHT NUMBER WAS. ONCE HAVING THE CONTRACT IN HAND, THE GENERAL IDEA WAS TO SKILLFULLY AND SUBTLY INTRODUCE CHANGES OR OTHERWISE BALLOON UP THE SCOPE OF WORK, AND THUS THE COST, SO THAT THE ORIGINAL UNDER-BID WAS NO LONGER A PROBLEM. BECAUSE THE FIELD WAS SO COMPETITIVE, THE PROCURING AGENCY MANY TIMES HAD TO DEFEND ITS CONTRACTOR SELECTION IN BITTER BATTLES WITHIN ITS SERVICE. HENCE, ONCE THE CONTRACT WAS AWARDED, THE PROCURING AGENCY AND THE CONTRACTOR WERE FIGURATIVELY IN BED TOGETHER; THE BUYER HAD A VESTED INTEREST IN THE SELLER. THE EFFECTS OF THIS ENVIRONMENT INTERNALLY WITHIN A COMPANY WAS POISONOUS. COST-CONSCIOUSNESS WENT UP IN SMOKE. "WELL, AFTER ALL" IT'S COST PLUS, THE CUSTOMER HAS TO PAY ALL COSTS." A LITTLE REFLECTION CAN PICTURE THE OVERALL EFFECT ON INTERNAL OPERATIONS OF COMPANIES DOING DEFENSE BUSINESS. THIS PHILOSOPHY WAS ALSO AN IMPORTANT FACTOR IN THIS COUNTRY'S TENDENCY TO TRY TO SOLVE PROBLEMS BY APPLICATION OF BRUTE FORCE OF MONEY AND PERSONNEL.

COLEMAN ENGINEERING COMPANY, Santa Ana, Calif.

With absolutely no cynical aspersions toward Coleman Engineering Co., it does represent a typical company caught up in the CPFF syndrome. It must

have been only through the guts and determination of Mr. T.C. Coleman, founder, (now chairman) and the faith and patience of his shareholders, that the company survived. The company was incorporated in 1953 with personnel coming from the larger

aerospace firms, accustomed to CPFF environment. Their first contracts were with the Navy and the Air Force, specialized engineering jobs, ones and twos of a kind.

The first semblance of an evolving product line was the rocket-accelerated test sled. Such systems were installed at Pt. Mugu and Inyokern, California, for the Navy, and at Hurricane Mesa, Utah, for the Air Force. The latter developed into a housekeeping, operating, and maintenance program running over a period of eight years. The government overbuilt its test tracks, and moreover, went into competition with Coleman in this field when the Rocket Development Laboratory at Edwards Air Force Base decided to do their own sled project in-house.

Up through 1961, 80% of the company's business was in specialized CPFF engineering projects; 50% was in the Hurricane Mesa Installation alone. In 1958, Coleman had acquired Beatty Camera Co., whose product was electrically-operated shutter cameras sold to professional photographers. Beatty was billing between 1/2 to 3/4 million dollars a year and had approximately 75 personnel. One of the main reasons for the acquisition at the time was the fact that the test track operations required high-speed, high resolution photography; and Beatty's capability was extended to meet this need. In 1962, additional financing of \$1.75 million was obtained through a public offering of common stock. It was intended for use in phasing out of the defense business and in proceeding gung-ho into commercial products.

At that time the photographic line was the only in-being base. The purchase of the product line of the California plant of the Norden Division of the United Aircraft Corporation launched Coleman into the field of Numerical Control (N/C) systems for the machine tool trade. The Norden N/C designs proved to be too sophisticated and costly for broad use by machine tool operators. The price to bring this gear to a suitable level of simplicity and cost was still another roadblock on the path to profit.

Now, the market for vote-tally machines began to beckon, and without really doing their homework on the marketing of this product, the company proceeded into the engineering and development of two prototypes. Demonstration was not handled very skillfully. At any rate, having gone this far, they found that some counties resort to bond issues for

this sort of equipment, or in most cases prefer to lease. Belatedly, the company concluded that it had neither the financial strength nor the marketing know-how to proceed further with this line. Three installations had been sold: Orange County in California; Cincinnati County in Ohio; and Multnomah County in Oregon. An abortive attempt was made to market through Univac. This product line is understandably dormant. Maintenance and service income on the three installations is small solace for the livid scars of loss years from 1963 through 1966, and only a \$.07 earnings per share in FY 1967.

In order to implement its marketing plans, the company has established five sales and service centers; Los Angeles, Cincinnati, Detroit, Boston, and Dallas.

Coleman is now billing about \$1.2 million per year in the N/C line. The photographic line gradually expanded year by year, selling for the most part to professionals doing volume business with schools, fraternal organizations, etc., where the size of the magazine and the method of identification were the main selling points. The company began to see that the security surveillance market might assume significant size. Further confirmation came from the Bank Protection Act of 1968 which requires that all banks and savings and loan companies insured by the Federal Deposit Insurance Corporation meet certain standards in security surveillance. Compliance is required by 1971. Coleman has kept abreast of the shifting requirements in this field, and has a product with an excellent reputation at a reasonable price.

In 1968, Mr. Coleman, then 64 years old, with excessive development costs on his hands wanted to put together a new management team, along with the addition of new products. Both objectives were achieved by the acquisition of four small companies on a pooling of interests basis. The key executives infused by these events were: Mr. Frank Vachon, now President and Chief Executive Officer; and Lyle P. Knudsen, Vice President Engineering. The companies were Industrial Hydraulics, Inc., Kasco Abrasives, Inc., and Keystone Abrasives Supply Co., all of Los Angeles, and Knudson Engineering, Inc., of Anaheim. These actions were consummated in October of 1968. Of the 770,000 common stock shares now outstanding, Mr. Vachon holds about 200,000 shares, Mr. Knudsen about 85,000 and Mr. Coleman about 45,000. The public float is about 350,000 shares with

the balance being held by employees and other directors.

The integrated organization now has four divisions;

Coleman Division (photographic, N/C equipment, and vote-tally machines).

Kasco Division (industrial abrasive discs and supplies).

Industrial Hydraulics Division (job honing of hydraulic cylinders and the manufacture of such cylinders for sale to the industrial market), and the

Knudsen Division which is a high-precision, high-quality jobber to the aerospace business (80%) and also to the commercial market.

With annual sales running in the range of \$5 to \$5.5 million, the contributions of each are, respectively, 58%, 19%, 7% and 16%. The company's growth plan calls for billings in three years of \$10 million.

The new management specifies that, as a rule, new products will come through acquisition rather than by invention from within. Such new products must

be compatible with the company's existing marketing capabilities.

CPFF engineers have been and still are a problem to many companies. Most of them are technically competent, but by the very nature of their environment, they are ill-qualified to have the disproportionately large influence in areas where the majority has not yet developed competence. These areas are marketing, manufacturing, and financial management.

All this is visible in the Coleman history, in spades. Mr. Coleman was reluctant to do what he knew he — or someone — had to do, somehow, to break the influence the engineers had on the effective running of the company.

Where is Coleman Engineering today? FY 1968 produced a loss of \$.59 per share on \$4.8 million in sales. FY 1969, under the new management team, showed a profit of \$.12 per share on \$4.6 million. First quarter results of FY 1970 are a profit of \$.09; we believe for the year it will run about \$.50. Current prices have been running between 7-1/2 and 8-1/2.

ONE OF THE MAJOR LONG RANGE FACTORS ACCRUING TO A COMPANY WHICH WINS A CONTRACT FOR THE DEVELOPMENT OF A LARGE MILITARY TRANSPORT AIRCRAFT IS ITS SUBSEQUENT CONVERSION TO A COMMERCIAL PRODUCT. A CASE IN POINT IS THE CONTROVERSIAL LOCKHEED C-5A TRANSPORT.

The Lockheed-Georgia Company, a division of Lockheed Aircraft Corporation is now looking hard at a significant cut-back in the production of the C-5A from 120 to 81 units due to contract over-runs. The immense plant at Marietta, Georgia needs to be fed. The net result appears that the company will accelerate its original plans for commercialization of the plane and have it sold and in operation within three years. The conversion will cost a lot of money, but that amount will pale before the costs of design, development, tooling, testing, etc. which will have been paid for via the contract with the Air Force.

The Lockheed designation for the commercial version is the L-500. The company could accept orders immediately, but in order to financially

justify the expense, a large order from a major carrier is essential. The commercial craft is capable of exceeding the military maximum payload of 265,000 pounds. Both trucking companies and railroads are showing interest because the entire cargo industry is coming to realize that surface carriers will have to coordinate freight hauling on land, sea, and air.

It is rumored that two shipping consortiums have expressed interest in using the plane for international shipments.

In connection with prepaid development costs, it is interesting to conjecture whether the California division's entry into the "Air-bus" field, the L-1011, is also the beneficiary, at least in part, of the C-5A program.

ENERGY TECHNOLOGY

BASE PRICE	1969 BASE DATE	EXCH.	1968 PRICE RANGE	1969 PRICE RANGE	COMPANY	SHARES OUTSTANDING (000)	LATEST 12 MNT EARN.	P/E RATIO	11/21	12/05	O/O 2-WK CHG	\$ CHG FROM BASE	O/O CHG FROM BASE
39-3/4	1/02	NSF	48- 35	41- 20	BABCOCK & WILCOX CO	12,367	.22**		22-5/8	24-1/4	7	- 15-1/2	- 38
69	1/02	NSE	82- 59	77- 53	COMBUSTION ENGINEERING	4,560	2.49**		71-5/8	73-1/2	3	- 4-1/2	6
47-3/4	1/02	NSE	72- 41	51- 23	EG & G INC	4,533	.33**		25-1/4	23	- 9	- 24-3/4	- 51
10-3/4	1/02	OTC	17- 5	11- 4	ENERGY RESOURCES	1,582	.33***		4-7/8	4-1/2	- 8	- 6-1/4	- 58
33-3/4	1/02	NSE	46- 22	38- 17	HIGH VOLTAGE ENG CORP	2,482	.24**		21-1/2	21-1/2		- 12-1/4	- 36
58	1/02	ASE	67- 53	58- 37	INT CHEM & NUCLEAR COR	750			41-1/2	42-3/4	3	- 15-1/4	- 26
122	1/02	NSE	143-104	125- 80	KERR MCGEE CORP	7,336	2.44**		98-3/8	95	- 3	- 27	- 22
31-5/8	1/02	ASE	42- 20	33- 16	NEW ENGLAND NUCLEAR	1,225	.17*		18-3/4	19-1/2	4	- 12-1/8	- 38
6-7/8	1/02	ASE	8- 4	8- 4	NUCLEAR CORP OF AMER	7,719	.06**		4-1/2	4-1/4	- 6	- 2-5/8	- 38
35	1/02	OTC	65- 30	42- 19	NUCLEAR RESEARCH ASSOC	513	.08D*		20	19-3/4	- 1	- 15-1/4	- 43
33	1/02	NSE	43- 28	36- 17	UNITED NUCLEAR CORP	4,559	.10*		20-5/8	19-3/4	- 4	- 13-1/4	- 40
17	1/02	OTC	17- 11	13- 7	VIKING INDUSTRIES INC		.22*		9	7-3/4	- 14	- 9-1/4	- 54
21-5/8	1/02	ASE	35- 21	24- 9	WESTERN NUCLEAR INC	2,342	DEF		10-3/8	9-1/4	- 11	- 12-3/8	- 57
40.47			* 3 MONTHS		INDEX AVERAGE				28.38	28.06	- 1	- 12.41	- 44
947.73			** 6 MONTHS		DOW-JONES INDUSTRIAL AVERAGE				823.13	793.03	- 4	- 30.10	- 16
			*** 9 MONTHS										

POLLUTION CONTROL

BASE PRICE	1969 BASE DATE	EXCH.	1968 PRICE RANGE	1969 PRICE RANGE	COMPANY	SHARES OUTSTANDING (000)	LATEST 12 MNT EARN.	P/E RATIO	11/21	12/05	O/O 2-WK CHG	\$ CHG FROM BASE	O/O CHG FROM BASE
2-1/2			8- 3	3- 1	AIR POLLUTION CONTROL				1-3/8	1-7/8	36	- 5/8	- 25
6-1/2		OTC	-	12- 3	BELCO POLLUTION CONTRO	200			4-1/4	3-1/2	- 18	- 3	- 46
56-1/4		NSE	60- 41	64- 32	CENCO INST CORP	3,027	1.66	25	41-1/4	41-1/2	1	- 14-3/4	- 26
38		OTC	45- 7	50- 18	COMBUST EQUIP ASSOC	1,929	.25	88	22-1/2	22	- 2	- 16	- 42
46	1/02	ASE	63- 40	50- 22	MARLEY CO	2,180	.36***		36-5/8	36-1/2	-	- 9-1/2	- 20
57-5/8	1/02	NSE	66- 36	63- 50	NALCO CHEMICAL CO	9,905	.68**		61-1/2	58-1/2	- 5	- 7/8	1
46-1/2	1/02	OTC	55- 37	50- 38	PETROLITE CORP	1,452	1.16**		41	41	-	- 5-1/2	- 11
291	1/02	OTC	330-192	291-116	RAYCHEM	1,091	3.02	83	281	252	- 10	- 39	- 13
38	1/02	ASE	56- 34	49- 31	RESEARCH COTRELL INC	3,205	.44***		44	48-1/2	10	10-1/2	27
6		OTC	-	8- 4	RESOURCE CONTROL INC				5-1/2	5-1/2	-	- 1/2	- 8
35-1/4	1/02	NSE	45- 31	36- 27	SYBRON CORP	9,183	.72**		35	34	- 3	- 1-1/4	- 3
34	1/02	NSE	46- 26	35- 20	ZURN INDUSTRIES	3,510	.27*		25	25	-	- 9	- 26
54.80			* 3 MONTHS		INDEX AVERAGE				49.92	47.49	- 5	- 7.31	- 15
947.73			** 6 MONTHS		DOW-JONES INDUSTRIAL AVERAGE				823.13	793.03	- 4	- 30.10	- 16
			*** 9 MONTHS										

OCEANOGRAPHY

BASE PRICE	1969 BASE DATE	EXCH.	1968 PRICE RANGE	1969 PRICE RANGE	COMPANY	SHARES OUTSTANDING (000)	LATEST 12 MNT EARN.	P/E RATIO	11/21	12/05	O/O 2-WK CHG	\$ CHG FROM BASE	O/O CHG FROM BASE
24-1/2	1/02	OTC	38- 19	27- 10	ALPINE GEOPHYSICAL	1,276	.29	37	12-1/2	10-5/8	- 15	- 13-7/8	- 56
24-1/2	1/02	OTC	57- 20	25- 7	ANADITE RESEARCH	2,077	.15***		8	7-1/4	- 9	- 16-1/4	- 69
29-3/4	1/02	NSE	37- 20	34- 16	BUDD CO	5,346	1.17**		16-3/8	16-1/4	- 1	- 13-1/2	- 45
31-3/4	1/02	NSE	42- 28	35- 21	DILLINGHAM CORP	9,252	.55**		27-1/4	28-1/4	4	- 3-1/2	- 11
38-1/4	1/02	ASE	49- 30	41- 20	EDD CORP	999	.80**		21-1/2	20-1/2	- 5	- 17-3/4	- 46
37-1/2	1/02	NSE	64- 30	41- 18	GLOBAL MARINE INC	3,939	.38**		22-3/8	18-1/4	- 18	- 19-1/4	- 51
49-1/4	1/02	NSE	105- 60	57- 41	HALLIBURTON CO	17,104	1.30**		55	54	- 2	4-3/4	9
85-1/2	1/02	NSE	104- 64	92- 61	MCDERMOTT J RAY & CO	6,321	.64*		63	61	- 3	- 24-1/2	- 28
47	1/02	OTC	49- 30	46- 28	OCEAN DRILLING & EXP	4,770	.57**		33-3/8	33-1/4	-	- 13-3/4	- 29
3-7/8	1/02	OTC	5- 3	6- 2	OCEAN RESEARCH EQUIP				2-3/4	2-1/2	- 9	- 1-3/8	- 35
34	1/02	ASE	41- 31	39- 29	OFFSHORE CO	7,600	1.01**		32-3/4	32-1/2	- 1	- 1-1/2	- 4
25	1/02	NSE	35- 24	49- 16	READING & BATES OFFSHO	2,447	.38***		25-1/2	25-1/4	- 1	- 1/4	1
52	1/02	ASE	55- 26	62- 23	ROWAN DRILLING CO INC	806	.98**		26-3/8	23-1/2	- 11	- 28-1/2	- 54
46-3/4	1/02	NSE	55- 28	54- 20	SANTA FE DRILLING INTE	3,231	1.05**		33-1/2	29-1/2	- 12	- 17-1/4	- 36
24	1/02	NSE	31- 15	35- 22	SEDCO	7,400	.96	30	32-3/8	28-3/4	- 11	4-3/4	19
65	1/02	NSE	87- 36	68- 33	ZAPATA NORNESS OFFSHOR	4,000	2.80***		36-1/8	33-1/4	- 8	- 31-3/4	- 48
16-1/2	1/02	ASE	19- 16	18- 8	ZERO MANUFACTURING CO	1,662	.20*		9-5/8	9-1/4	- 4	- 7-1/4	- 43
37.30			* 3 MONTHS		INDEX AVERAGE				26.96	25.52	- 6	- 11.78	- 46
947.73			** 6 MONTHS		DOW-JONES INDUSTRIAL AVERAGE				823.13	793.03	- 4	- 30.10	- 16
			*** 9 MONTHS										

SPACE TECHNOLOGY

BASE PRICE	1969 BASE DATE	EXCH.	1968 PRICE RANGE	1969 PRICE RANGE	COMPANY	SHARES OUTSTANDING (000)	LATEST 12 MNT EARN.	P/E RATIO	11/21	12/05	O/O 2-WK CHG	\$ CHG FROM BASE	O/O CHG FROM BASE
24-1/4		OTC	30- 15	25- 8	AMER SCIENCE & ENGRG		.32**		9-3/4	9-1/2	9	- 14-3/4	- 60
56-7/8	1/02	NSE	91- 52	62- 30	BOEING CO	21,612	1.03**		31-1/2	30	- 5	- 26-7/8	- 47
15	1/02	NSE	23- 15	20- 8	CCI MARQUART CORP	2,819	.12*		9-1/8	8	- 12	- 8	- 50
47-5/8	1/02	NSE	61- 42	50- 18	LOCKHEED AIRCRAFT CORP	11,247	1.55**		19-1/2	18-1/4	- 6	- 29-3/8	- 61
49-1/2	1/02	NSE	60- 43	50- 24	MCDONNELL DOUGLAS CORP	27,232	2.39**		41-1/8	41-3/4	2	- 7-3/4	- 15
47-1/2	1/02	NSE	45- 32	43- 24	NO AMER ROCKWELL CORP	23,799	1.74***		26-1/8	24-1/2	- 6	- 18	- 42
33-1/2	1/02	OTC	36- 13	48- 20	ROCKET RESEARCH CORP	1,385	.11**		20-3/4	20-1/4	- 2	- 13-1/4	- 39
35-3/8	1/02	NSE	37- 26	39- 25	FOHR CORP	3,582	2.81	9	26	25-1/2	- 2	- 9-7/8	- 27
16-1/2	1/02	OTC	24- 14	16- 7	SPACE CORP	349	.57	13	8-1/8	7-1/4	- 11	- 9-1/4	- 56
30-1/4	1/02	OTC	36- 13	14- 5	SPACE CRAFT INC	400	.33	27	8-1/2	9	- 6	- 21-1/4	- 70
4	1/02	OTC	9- 4	4- 2	SPACE ORDNANCE SYS	393			2-1/4	2-1/2	11	- 1-1/2	- 37
10	1/02	OTC	10- 2	10- 2	SPACE SYSTEMS LAB INC				3	3	-	- 7	- 70
30.53			* 3 MONTHS		INDEX AVERAGE				17.06	16.63	- 3	- 13.91	- 84
947.73			** 6 MONTHS		DOW-JONES INDUSTRIAL AVERAGE				823.13	793.03	- 4	- 30.10	- 16
			*** 9 MONTHS										

MEDICAL TECHNOLOGY

BASF PRICE	1969 BASE DATE	EXCH.	1968 PRICE RANGE	1969 PRICE RANGE	COMPANY	SHARES OUTSTANDING (000)	LATEST 12 MNT EARN.	P/E RATIO	11/21	12/05	O/O 2-WK CHG	\$ CHG FROM BASE	O/O CHG FROM BASE
66-5/8		NSE	67- 42	76- 64	ABBOT LABS		1.16**		74-3/4	74-1/2	-	7-7/8	11
65		OTC	60- 38	70- 38	ALCON LABS INC	650	1.55***		45-1/2	46-1/2	2	18-1/2	28
3		OTC	-	4- 3	AMER MED AFF		.07***		4-3/8	3-3/4	- 14	-3/4	25
32-1/2		OTC	-	35- 22	AMER MEDICORP INC	2,181	.30*		34-1/2	34-1/2		2	6
46		ASF	-	46- 22	BEVERLY ENTERPRISES	2,687	.10*		35-3/8	36-5/8	4	9-3/8	20
44		OTC	55- 39	46- 18	BIODYNAMICS INC				22	21-3/4	- 1	22-1/4	50
9		OTC	18- 7	9- 5	BIRTHCORP		.12***		6-3/8	5-3/4	- 10	3-1/4	36
23		OTC	-	29- 23	EXTRACORPOREAL MED SPE	279	.20*		26-1/4	25	- 5	2	8
90	1/02	NSE	97- 73	108- 82	MERCK & CO INC	35,764	2.71	40	106-3/4	108	1	18	20
45-5/8	1/02	NSE	95- 32	51- 34	NAPCO SCIENTIFIC IND	1,447	1.47***		38-1/8	37-1/2	- 2	8-1/8	17
41-1/2	1/02	NSE	39- 30	49- 35	SEARLE G D 3 CO	15,351	1.00**		38-3/4	46	19	4-1/2	10
67-1/4	1/02	ASE	80- 53	80- 49	SYNTEX CORP	9,444	2.39	30	71-1/8	72-1/4	2	5	7
55-3/4	1/02	OTC	64- 41	59- 37	UPJOHN CO	14,666	1.41**		51-1/8	50-3/4	- 1	5	8
58-7/8	1/02	NSE	62- 39	71- 52	WARNER LAMBERT PHARM	29,928	1.19**		69	71	3	12-1/8	20
46.29	* 3 MONTHS				INDEX AVERAGE				44.57	45.28	2	1.02	2
947.73	** 6 MONTHS				DOW-JONES INDUSTRIAL AVERAGE				823.13	793.03	- 4	30.10	- 16
	*** 9 MONTHS												

ADVANCED ENGINEERING

BASF PRICE	1969 BASE DATE	EXCH.	1968 PRICE RANGE	1969 PRICE RANGE	COMPANY	SHARES OUTSTANDING (000)	LATEST 12 MNT EARN.	P/E RATIO	11/21	12/05	O/O 2-WK CHG	\$ CHG FROM BASE	O/O CHG FROM BASE
13		OTC	-	15- 7	ACCELERATORS INC				8-3/4	12-1/2	43	-1/2	3
44-3/8	1/02	ASF	53- 32	52- 22	ALLOYS UNLIMITED INC	4,515	1.22***		24-3/4	22-1/4	- 10	22-1/8	49
32		NSE	52- 35	33- 21	AMETEK		.70**		21-5/8	22-1/2	4	10-1/2	31
9		OTC	13- 5	9- 5	COLEMAN ENGRG		.09*		6-3/4	6	- 11	3	33
19-7/8	1/02	ASE	37- 18	21- 7	COSMODYNE CORP	1,409	DEF		8-3/4	7-1/2	- 14	12-3/8	62
55	1/02	OTC	65- 11	72- 42	ENERGY CONVERSION DEV		.76D		50	50		5	9
12-1/4	1/02	ASE	14- 10	13- 4	GENISCO TECHNOLOGY	1,012	.97D**		5-7/8	5-1/4	- 11	7	57
18-1/2	1/02	OTC	22- 11	20- 5	INFRARED IND INC	1,069	.11	50	7	5-1/2	- 21	13	70
22	1/02	OTC	41- 18	25- 9	KAMAN CORP	697	.51**		13-3/4	12-1/2	- 9	9-1/2	43
51-1/2	1/02	OTC	74- 45	59- 19	TRACOP INC	1,590	.60**		28	24-1/2	- 13	27	52
27.00	* 3 MONTHS				INDEX AVERAGE				15.93	15.32	- 4	11.68	76
947.73	** 6 MONTHS				DOW-JONES INDUSTRIAL AVERAGE				823.13	793.03	- 4	30.10	- 16
	*** 9 MONTHS												

LASER TECHNOLOGY

BASF PRICE	1969 BASE DATE	EXCH.	1968 PRICE RANGE	1969 PRICE RANGE	COMPANY	SHARES OUTSTANDING (000)	LATEST 12 MNT EARN.	P/E RATIO	11/21	12/05	O/O 2-WK CHG	\$ CHG FROM BASE	O/O CHG FROM BASE
14-1/4	1/02	OTC	16- 11	17- 4	AMER ELECTRONIC LABS	1,479	.160**		7-1/4	6-1/4	- 14	8	56
7-1/4		OTC	-	8- 2	ELECTRO POWERPOCS CORP				2-1/2	2-1/2	-	4-3/4	65
9		OTC	-	9- 5	GEN LASER CORP				6-1/2	5-3/4	- 12	3-1/4	36
7-1/2		OTC	-	8- 6	HADRON INC		.41D**		6-3/4	6-1/4	- 7	1-1/4	16
22		OTC	-	32- 13	HOLOBEAM		.47D***		23-1/2	22	- 6		
28-1/4		OTC	41- 32	30- 14	KEUFFEL & ESSER		.59***		15-1/4	14-1/2	- 5	13-3/4	48
14-1/2	1/02	OTC	16- 5	20- 7	LASER SYSTEMS CORP	1,479			9-3/4	7-3/4	- 21	6-3/4	46
52-1/2		NSE	54- 40	56- 36	MONSANTO CO		2.69***		39-3/4	38-1/8	- 4	14-3/8	27
24-1/2		OTC	42- 23	29- 9	OPTICS TECHNOLOGY INC				10-1/2	9-1/2	- 10	15	61
14	1/02	OTC	23- 12	15- 6	SPACERAYS		.20D*		10-3/4	9-1/4	- 14	4-3/4	33
19.38	* 3 MONTHS				INDEX AVERAGE				13.25	12.19	- 9	7.19	59
947.73	** 6 MONTHS				DOW-JONES INDUSTRIAL AVERAGE				823.13	793.03	- 4	30.10	- 16
	*** 9 MONTHS												



Technology Frontliner Stocks

Vol. I, No. 1

A twice-monthly publication of Technology Research Bureau

December 19, 1969

Annual Subscription — \$55

THIS IS THE FIRST OF TECHNOLOGY FRONTLINER STOCKS (TFS), A FINANCIAL ADVISORY SERVICE TO INVESTORS, OFFERED BY COMPUTER + TECHNOLOGY INFORMATION, INC., NEWPORT BEACH, CALIFORNIA. THIS ISSUE WILL NOT BE SOLD AND IS INTENDED ONLY TO TELL INVESTORS ABOUT OUR NEW STOCK ADVISORY SERVICE.

The second and subsequent issues of Technology Frontliner Stocks will be eight to 12 page financially-oriented newsletters. The newsletters will identify, clarify, segment, analyze and interpret the actions of high technology securities. TFS is a natural outgrowth of our financial services connected with the computer industry.

TYPES OF COMPANIES

As a rule, the companies covered will be in the high-risk, high-potential class having recently gone public or expected to do so within a year. However, large, well-established companies will be discussed when their activities on the technical frontiers have (1) a direct bearing on the performance or prospects of the younger, smaller companies or (2) a significant influence on their own stock price.

TECHNOLOGY SECTORS

The rampant forward pace of technical developments necessitates a flexible approach to the sectors to be selected. The more attractive opportunities now seem to lie in MEDICAL SCIENCE, POLLUTION CONTROL, and OCEANOLOGY. Therefore, there will tend to be emphasized at this time. However, other areas of promise such as LASERS, EXOTIC MATERIALS, SPACE, ENERGY, and ADVANCED ENGINEERING will also be covered.

SUBSCRIBER MARKET

TFS, written in lay language, is aimed at those in the financial community who are vulnerable to obsolescence in technology information: brokers, analysts, traders, institutional investors and astute private investors. Many financial personnel admit to confusion over the technical jargon and perspective involved in the evaluation of stocks in these fields.

DESCRIPTION OF CONTENT

The content will include:

- (1) Identification of new issues, with interpretive comment,
- (2) Trends in the industries,
- (3) Reports on plant visits and officer interviews,
- (4) Identification of "arriving" companies, and
- (5) Companies to watch very closely.

Companies will be related to the competitive spheres in which they operate. Once a promising company has been reported upon, it will be continuously updated. In-depth reports on specific companies will assess and project a company's performance by evaluating:

- Possibilities of product substitution or obsolescence,
- The company or sector popularity,
- The product line competitively with respect to time,
- Success or failure of marketing techniques,
- Sales and earnings potentials on a realistic basis,
- An investor's judgment on the product, its saleability, the management, and the growth possibilities.

Tabular Stock Tables

There will be seven sectorized tables on the last two

pages, providing data of most interest to investors such as current price, price two weeks previous, price at beginning of year or opening day of the issue, percentage change for the base period, dollar increase for the base period, earnings for the previous quarter, total shares outstanding, or the approximate public float. Appropriate comment may accompany the table. The tables will continuously be revised to reflect the greatest investment opportunities.

Investors' Guide

In general, the entire letter, including the tables is intended as an information base upon which a buy or sell decision can be made. Analysis, interpretation, and projection of specific stocks will be objectively critical, including apprehensive or qualifying factors.

COMPUTER + TECHNOLOGY INFORMATION, INC. is pleased to have acquired the services of Willard Sweetman, Jr., to head our newly formed Technology Research Bureau (TRB). The Bureau will publish TECHNOLOGY FRONTLINER STOCKS and other financial information products concerned with the various technologies. To TRB, Bill Sweetman brings a varied background in engineering, business management and finance.

He has practical experience in fields where other analysts penetrate only as far as an examination of profit and loss sheets.

From a Bachelor's Degree in Metallurgical Engineering and a Master's in Aeronautical Engineering, both from Rensselaer Polytechnic Institute, Bill went into research, development, production, marketing and general management in the fields of non-ferrous metals, chemistry, electrochemical devices, aircraft and missile propulsion systems, power supplies and structures. His assignments were with such companies as Bethlehem Steel, Reaction Motors, Inc., American Machine and Foundry Company, Sunstrand Corporation and Freuhauf Company. He also served as an industrial consultant to the State of California.

Another key to Bill's value to TRB is his extensive experience in profit responsibility; included were evaluations and follow through in acquisitions. He also held a National Association of Securities Dealers license and was a registered representative.

C+TI believes Bill Sweetman's talent and experience will greatly enhance TRB's investment advisory publications.



Computer + Technology Information Inc.

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